

ABSTRACT OF THE INVENTION

An oblique sputtering deposition apparatus is provided for preparing a thin film. A collimator having angled passages for filtering out particles from stray directions is placed between the substrate and the incident particle flux. The angle of the passages can be adjusted from about 0 to about 90° with respect to the substrate normal according to requirements. The oblique incidence of particle flux brings forms a column structure which is also angled.